

## REMARKS

The Office Action mailed May 10, 2006 rejected claims 1-22 under Section 103(a) as unpatentable over Norand in view of Coble and Brown. The Office Action noted as follows:

Regarding Claim 1, Norand teaches:  
a handheld computer adapted to collect construction quality data from the field;

Reference X1 page 2 paragraph 3 line 1-3, Norand Pen\*Key handheld computers are used in the field.

Reference X1 page 2 paragraph 3 line 9-10, inspection reports (i.e. construction quality data) from the field are collected by Norand system.

a planning system to track budgetary information;

Reference X1 page 3 paragraph 2 line 2-4, time and materials for construction contractors (i.e. budgetary information) is tracked by the Norand system.

a construction system to track material consumption and progress for each project,

Reference X1 page 2 paragraph 3 line 7-10, project information and time sheets for employees tracked by system.

the construction system adapted to receive quality data collected from the handheld computer,

Reference X1 page 2 paragraph 3 line 9-10, inspection reports (i.e. construction quality data) from the field are collected by Norand system -see line 3-4, this information is uploaded to the mainframe (i.e. construction system).

store daily project reports

Reference X1 page 2 paragraph 3 line 8-10, forms (i.e. reports) are used to store information that was previously hand written. These forms include daily time sheets and project information (i.e. daily project reports).

and generate key indicator reports

Reference U1 page 4 paragraph 11 line 1-3, reports collected from data entered into the system can be generated of any key indicators regarding worker performance.

Norand does not teach:

a design system to perform site engineering assessment;

Coble teaches:

a design system to process site engineering assessment data including Design Audit of engineering calculations;

Page 4 paragraph 1 line 5-7, handheld system incorporates computer aided design (CAD) drawings to record construction activities (i.e. site engineering assessment).

Page 4 paragraph 1 line 12-15, construction activities can be assessed and recorded using computer aided design (CAD) system.

(The examiner notes that the data list of "Utility, Conflict and Relocation ... Design Audit of Engineering Calculations" is considered non-functional descriptive material data since the data as claimed does not add patentable structure to the claim. The design system is only processing data including the above elements. The elements as listed do not structurally change how the design system is processing them.)

Both Coble and Norand disclose providing wireless mobile computing capability to field workers, thus both Coble and Norand are analogous art.

Coble teaches that providing construction crews in the field with mobile wireless devices improves their productivity (Page 3 paragraph 2 line 1-2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Norand, regarding providing field workers with mobile computers, with providing mobile workers with the capability of providing site engineering assessments, as taught by Coble, because it would improve the productivity of construction workers at the job sites.

Coble further teaches of the need to connect the construction foreman, who is responsible for the onsite documentation and management of a project, with the project engineer, who receives design plans from the project architect (see Figure 2). Furthermore, Coble teaches the need to apply project management techniques to manage the construction projects (page 4 para 1 line 7, project management tasks in the field are recorded as being completed). Coble teaches that plans are received from the architect by the project manager (i.e. who applies project management).

Cobles teachings address the use of automation (i.e. a handheld wireless device) in the field by construction foreman to record activities that ensure a project is on track and provide the necessary documentation supporting the project management of construction activities. Coble also teaches that updates from the construction foreman are connected to a design system so that drawings reflect what is built.

While Coble does not teach a planning system per se, he acknowledges the need to connect the handheld computer in the field, which records information that is updated to the design system (c.g. recording as-builts). Coble also teaches the need to connect project management with the project design function (See Figure 2, the project management function is connected to the project architect function).

It is old and well known in the art of construction project management to perform predesign of programs containing a number projects, i.e., to create plans

of projects, subprojects and tasks before activity is actually commenced. Brown teaches such a system.

Specifically, Brown teaches a planning system to perform predesign of a program having a plurality of projects (column 9 line 45-50). Brown teaches that his planning system may be connected to various industry specific systems (column 5 line 59-64).

It would be therefore obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Coble and Norand, regarding connecting a handheld computer in the field to upload construction information, to include the step of connecting the design system taught by Coble to a planning system to perform predesign because it would provide the project management necessary to successfully administer a construction project.

Applicants respectfully traverse the rejections.

#### The Section 103 Rejection

Applicants respectfully traverse the Section 103(a) rejection. First, Norand fails to show the planning system to track budgetary information. Reference X1 page 3 paragraph 2 line 2-4, shows the Norand tracking time and materials for construction contractors (i.e. budgetary information). However, the Norand system does not have a planning system.

Next, Norand does not have a construction system to track material consumption and progress for each project. The various citations to Reference X1 page 2 show the tracking of material consumption for each project but fails to show a plurality of projects

Moreover, neither Norand nor Coble shows the claimed design system to perform site engineering assessment including environmental concerns. The Office Action acknowledged that Norand does not teach a design system to perform site engineering assessment; but asserts that Coble teaches: a design system to perform site engineering assessment and notes that Page 4 paragraph 1 line 5-7 of Coble shows the handheld

system incorporates computer aided design (CAD) drawings to record construction activities (i.e. site engineering assessment).

Applicants respectfully traverse the combination of Brown, Cobble and Norand. Norand teaches a handheld system, while Coble shows a CAD system.

However, site engineering assessment, as known in the construction industry, relates to environmental site engineering assessment (ESEA). Typically, ESEA work includes identifying certain baseline environmental conditions and identifying compliance deficiencies and serving as an initial step in site remediation plan preparation. ESEA information can also include the types of activities, processes and practices that have occurred on the site and on neighbouring sites; the framework of legislation and published guidelines that apply to the property; the amount and quality of pre-existing information on the site's potential contamination; such site-specific conditions as soil type, depth to ground water, direction and rate of ground water flow, ground water quality, surface water quality, sediment quality and depth to bedrock; the type and quantity of information required to design an appropriate remediation program; and the potential presence of designated substances, solid, liquid or hazardous wastes, raw materials, products and other dangerous goods.

Norand, Cobble, and Brown simply cannot handle ESEA in the data processing. This terminology is now explicitly in the amended independent claim for clarification. Applicants took the opportunity to remove language that the examiner deemed to be functional language from the claims to clarify the claims. This is at least one basis for traversing the rejection.

In short, as neither Norand, Brown nor Coble shows each element of the claims, withdrawal of the Section 103 rejection is requested.

Applicant notes that the present rejection does not establish *prima facie* obviousness under 35 U.S.C. § 103 and M.P.E.P. §§ 2142-2143. The Examiner bears the initial burden to establish and support *prima facie* obviousness. *In re Rinehart*, 189 U.S.P.Q. 143 (CCPA 1976). To establish *prima facie* obviousness, three basic criteria must be met. M.P.E.P. § 2142. First, the Examiner must show some suggestion or motivation, either in the Norand reference or in the knowledge generally available to one of ordinary skill in the art, to modify the reference so as to produce the claimed invention. M.P.E.P. § 2143.01; *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Secondly, the Examiner must establish that there is a reasonable expectation of success for the modification. M.P.E.P. § 2142. Thirdly, the Examiner must establish that the prior art references teach or suggest all the claim limitations. M.P.E.P. §2143.03; *In re Royka*, 180 U.S.P.Q. 580 (CCPA 1974). The teachings, suggestions, and reasonable expectations of success must be found in the prior art, rather than in Applicant's disclosure. *In re Vaack*, 20 U.S.P.Q.2d 1438 (CAFC 1991). Applicant respectfully submits that a *prima facie* case of obviousness has not been met because the Examiner's rejection fails on at least two of the above requirements.

First, Norand fails to disclose a number of claimed elements. Moreover, the design assessments in Coble shows that the construction foreman only performs constructability reviews, not pre-design planning and design management. Coble and Brown do not teach pre-design planning and design management as a design system to perform site-engineering assessment that includes: Environmental site assessments.

Coble does not show other site engineering assessments relating to Utility, Conflicts and Relocations, Planning of Multi-Project Coordination at the same work location, Geotechnical Investigations, Coordination Survey Activities, Real Estate and Right-Of-Way Acquisitions, Archeological Investigations, Design Audits of Engineering Calculations.

Moreover, Norand and Coble and Brown does not teach pre-design planning and design management as a design system to perform assembly of Construction Documentation including: Drawings, Cost Estimates, Projects Specifications, Bid Package Documents and Bid Tabulation Evaluations. Further, Norand and Coble does not teach using the handheld computers as part of the design and planning system to coordinate design conflicts and construction sequencing for multi-project construction activities competing for the same equipment, real estate, and resources.

Applicant points out that the Examiner bears the initial burden of factually establishing and supporting any *prima facie* conclusion of obviousness. *In re Rinehart*, 189 U.S.P.Q. 143 (CCPA 1976); M.P.E.P. § 2142. If the Examiner does not produce a *prima facie* case, the Applicant is under no obligation to submit evidence of nonobviousness. *Id.* In the instant case, the Examiner has not pointed to any evidence in Norand, or how knowledge of those skilled in the art, provide a suggestion or motivation to modify the reference teaching so as to produce the claimed invention. See *In re Zurko*, 59 U.S.P.Q.2d 1693 (Fed. Cir. 2001) ([I]n a determination of patentability .... the Board cannot simply reach conclusions based on its understanding or experience - or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings).

Under *Vaeck*, absent any evidence of a cited suggestion or reasonable motivation in the Norand reference, or knowledge of those skilled in the art, *prima facie* obviousness of claims 1-22 (and those dependent therefrom) has not been established. As such, it is respectfully requested that the § 103(a) rejection of all claims be withdrawn and the claims be allowed.

### CONCLUSION

Applicant believes that the above discussion is fully responsive to all grounds of rejection set forth in the Office Action.

If for any reasons the Examiner believes a telephone conference would in any way expedite resolution of the issues raised in this appeal, the Examiner is invited to telephone the undersigned at 408-528-7490.

Respectfully submitted,

By: \_\_\_\_\_

Bao Tran  
Reg. No. 37,955

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